Effect of water filtration with carbon and zeolite on water hardness, sodium and potassium of water in different stock density of Macro (*Labidochromis caeruleus*)

Rahim Peyghan[1*]
Mohammad Razijalali[2]
Safora Baratizadeh[3]

1, 2. Professor, Department of Clinical Sience, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran.
3. Graduated Student of Veterinary Medicine Graduate, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran.

***Corresponding author:**
rpeyghan@yahoo.com

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Abstract

Water physicochemical factors have an important role in the health of fish. In this study, the effect of filtration and density of Macro fish (mean weight: 9.2±1.9 g) on water hardness, sodium and potassium was studied. For this purpose, the concentrations of water biochemical parameters were measured at three densities (1.2, 2.25 and 3 g fish/l) and three filtration methods (carbon filtration, zeolite filtration, and control or simple filtration). Water samples collected in a period of one month and three days intervals and were immediately investigated by kits and water quality instruments. Data were compared using two-way ANOVA. The results showed that the average weight gain in the three types of filtration methods in three densities had no significant differences. The average concentration of sodium in comparison with filtration, between filtration of the zeolite group and control group was significantly different. Also, in hardness of water there were significant differences between filtration of the carbon, zeolite group and the control group. The results showed that the average of potassium level in the three types of filter in three densities had no significant difference. The results showed that there was no marked effect of filtration and density on hardness, minerals and total weight of fishes. Therefor there is no need for special regulation of water minerals in this filtration types.

Keywords: Aquarium, Filtration, Carbon, Zeolite, Minerals.